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Suction insect trap device

(57) The device comprises a main body 3 housing a motor and batteries and comprising a tunnel 16 flaps 6, air vent 2, trigger 17 and a trap door 4 and further comprising a separate handle 10 comprising an area for holding the captured insects 12 and air vent 14. In use the main body 3 and handle 10 are connected. On pressing the trigger the motor creates a suction effect that draws insects into the device. The trap door 4 is raised with the suction effect and as the air and the insect hit flaps 6 they fold inwardly to trap the insects in the handle. An insecticide tablet 13 may be used in the handle.



The claims were filed later than the filing date but within the period prescribed by Rule 25(1) of the Patents Rules 1995.

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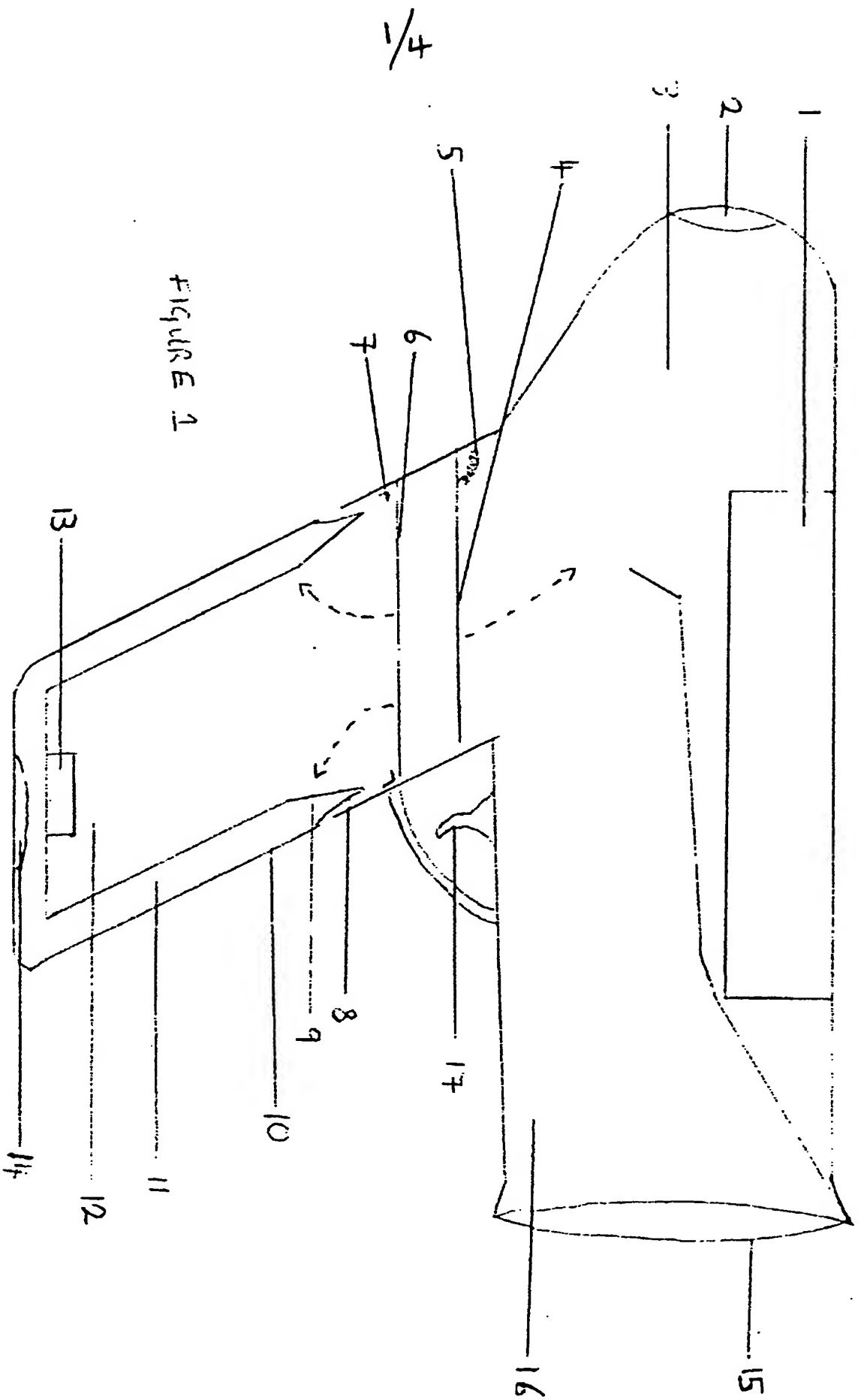


FIGURE 1

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Figure 2

- 1 Trigger pulled,
- 2 Motor starts,
- 3 Trap door raises,
- 4 Path of insect,
- 5 Flaps move inwards.

Figure 3

- 1 Main unit.
- 2 Handle.

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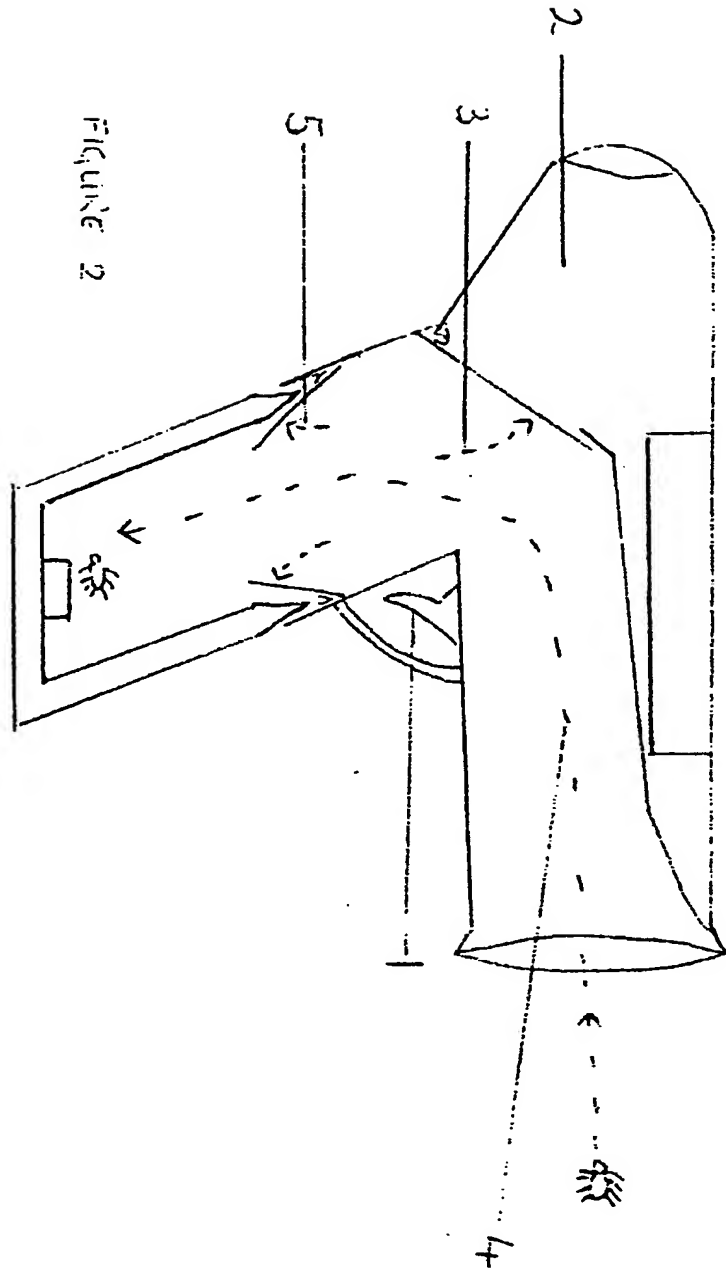


Figure 2

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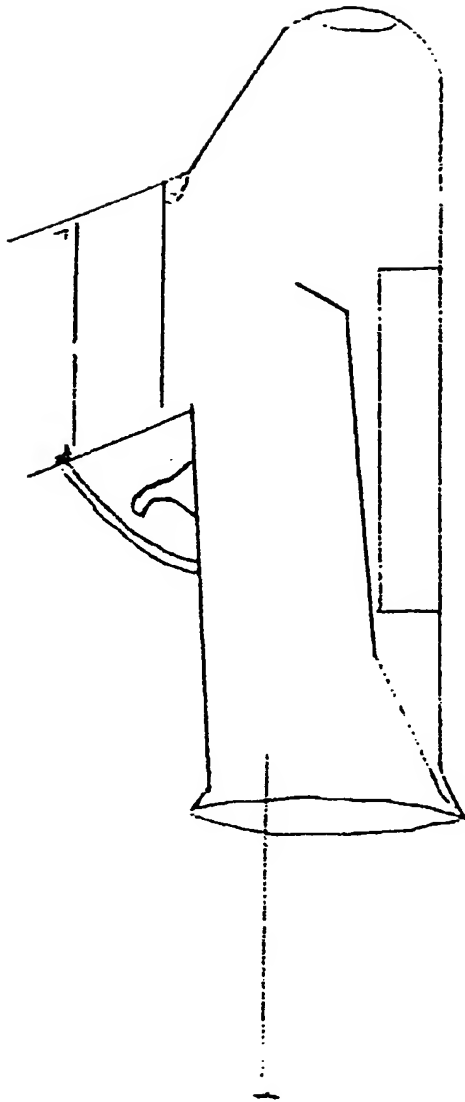
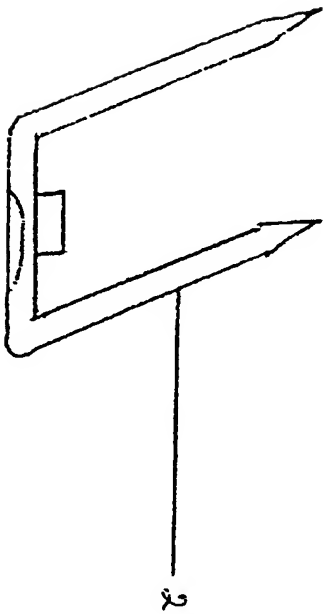


FIGURE 3



BUG BUSTER THE INSTANT CLEAR AWAY

This invention relates to a Bug Buster.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 shows each individual part of the Bug Buster,

Figure 2 shows the Bug Buster in use and

Figure 3 shows the separation of the Bug Buster.

Referring to fig 1 the Bug Buster consists of two parts, the main unit 15 and the detachable handle 10. The Bug Buster can only be used when both parts are attached together.

The Bug Buster's main use is to catch insects which can then be disposed of cleanly into a waste bin.

When the trigger 17 is pulled fig 2 the motor 3 starts and air is sucked into the tunnel 16 and at the same time the trap door 4 raises.

The Bug Buster is placed near the insect which is sucked into the tunnel 16 and down towards the handle 10. As the insect and the air hit the flaps 6 they fold inwards into the handle 10 and the insect goes into the bottom of the handle 10. Once the trigger is released the trap door 4 shuts, the motor 3 stops and the flaps 6 go back up to their normal position. The air sucked into the Bug Buster disperses out of the handle 10 through the mesh 9 and through the holes on the flaps 6 down the air duct 11 and out of the bottom air vent 14. The insect is naturalised by the insecticide tablet 13.

After a period of time the insecticide tablet 13 will need to be changed and the handle 10 emptied fig 3. The handle 10 can be unscrewed and emptied of naturalised insects into a waste bin. A new insecticide tablet 13 can be put inside the handle 10 which can be screwed back onto the main unit 15 and the Bug Buster is ready for use again.

The Bug Buster can also be used for scientific research. The insecticide tablet 13 does not have to be used and the captured insects can be kept for a short time inside the handle 10 and then taken to the lab for study.

A larger version of the Bug Buster can also be run off a rechargeable battery. This can be used where there is a larger population of insects.

Figure 1

- 1 Battery housing. The batteries are required to run the motor to start the air flow into the tunnel and raise the trap door.
- 2 Back air vent. This allows the motor to keep cool.
- 3 Motor housing. The motor is a small electrical motor which runs off the batteries and starts when the trigger is pulled.
- 4 Trap door. When the motor starts the air is sucked into the tunnel and the trap door raises. When the trigger is released the trap door shuts.
- 5 Spring. The trap door is spring mounted.
- 6 Flaps .2. Hinge mounted and small holes across their surface.
- 7 Hinges .2. Allow the flaps to open inwards only.
- 8 Screw mechanism. This allows the handle to be screwed off the main unit.
- 9 Mesh .2. This allows air flow down the air duct but stops the insect escaping.
- 10 Handle. This screws off the main unit and allows for hand grip and trigger movement.
- 11 Air duct. This allows the escaping air to travel to the bottom air vent.
- 12 Holding compartment. The insect is naturalised here with the insecticide tablet.
- 13 Insecticide tablet. This naturalises the insect inside the holding compartment.
- 14 Bottom air vent. Air escaping through the air ducts is released here.
- 15 Main unit. This houses the battery compartment, motor, flaps, trap door, tunnel, air vent and trigger.
- 16 Tunnel. When the motor starts the air is sucked into the tunnel along with the insect and down into the holding compartment.
- 17 Trigger. This is mounted onto the main unit and not the screw off handle. It activates the motor and the trap door.

CLAIMS

- 1 A two part Bug Buster the Main Unit houses the tunnel, motor, batteries, trigger, trap door, air vent and two flaps the Handle house the air duct, holding compartment, bottom air vent and insecticide tablet the two parts are detachable for emptying purposes and will only work when attached together.
- 2 A Bug Buster as in claim 1 would be used to catch insects by sucking them into the holding compartment where the insect is neutralised by the insecticide tablet and can then be disposed of later.
- 3 A Bug Buster as in the above claims will work by when the trigger is pulled the motor starts and the air is sucked into the tunnel and at the same time the trap door raises the Bug Buster can then be placed near the insect which is sucked into the tunnel and down towards the handle, as the insect and the air hits the flaps they fold inwards into the handle and the insect goes into the bottom of the handle once the trigger is released the trap door shuts the motor stops and the flaps go back to their normal position, the air sucked into the Bug Buster disperses out of the handle through the mesh and through the holes on the flaps down the air duct and out of the bottom air vent the insect is neutralised by the insecticide tablet.
- 4 A Bug Buster as in the above claims which is made from metal or plastics material or a combination of both materials and also chemical for the insecticide tablet.
- 5 A Bug Buster substantially as herein described and illustrated in the accompanying drawings.



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Application No: GB 9915690.3
Claims searched: 1-5

Examiner: Paul Jenkins
Date of search: 21 October 1999

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.Q): A1M (MDB)

Int CI (Ed.6): A01M 1/06, 3/00, 5/00, 5/02, 5/08

Other: Online: WPI, EPODOC, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	US 4979330 (RORANT) See especially cage 20,22	1, 4
Y	US 4794725 (NUMERICK) Column 5 lines 24-37	2
X,Y	US 4607451 (JARECKI) Whole document relevant	X:1,3&4 Y: 2
X	US 4175352 (CATLETT) See especially flaps 70 in figure 5	1, 4
X	US 4074458 (CATLETT) Whole document relevant	1, 4

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.